

Equilibrium Worksheet #2

1. Scientific Notation:

Convert each of the following into scientific notation:

131000 1.31×10^5

0.0000024 2.4×10^{-6}

2. Which side of the equation (reactants or products) is favored at equilibrium?

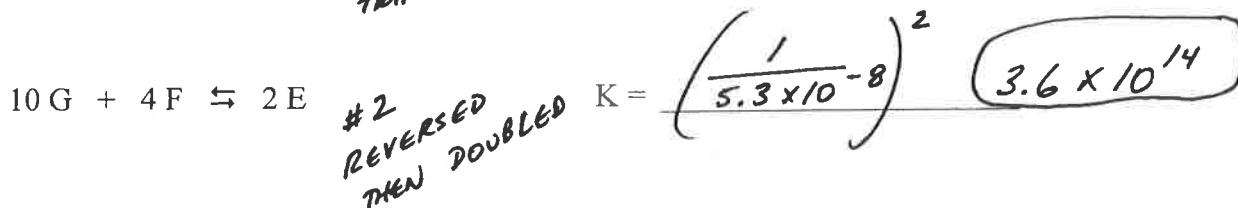
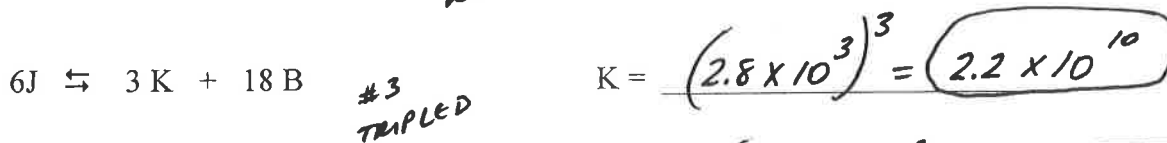
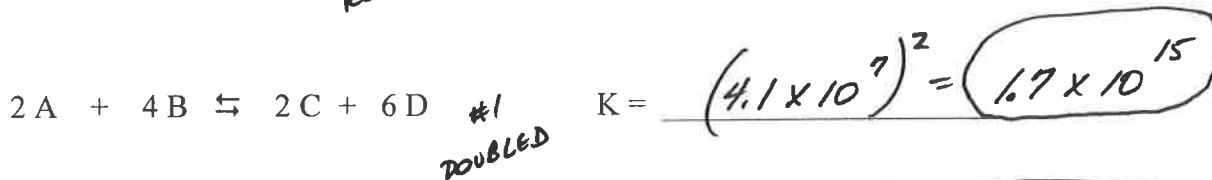
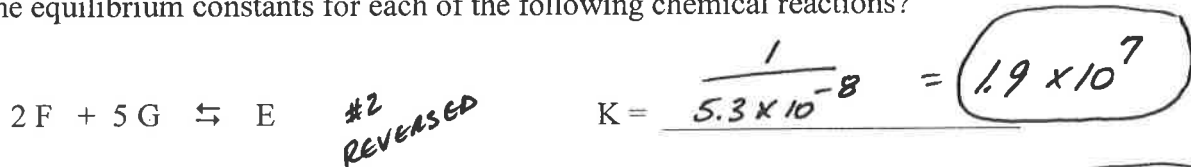


Explain your reasoning:

BIG K VALUE SO RIGHT SIDE MUST BE FAVORED.

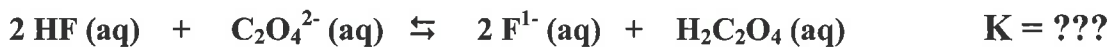
#1	$A + 2B \rightleftharpoons C + 3D$	$K = 4.1 \times 10^7$
#2	$E \rightleftharpoons 2F + 5G$	$K = 5.3 \times 10^{-8}$
#3	$2J \rightleftharpoons K + 6B$	$K = 2.8 \times 10^3$

3. What are the equilibrium constants for each of the following chemical reactions?



Reaction #1	$\text{HF (aq)} \rightleftharpoons \text{H}^+ \text{(aq)} + \text{F}^- \text{(aq)}$	$K_1 = 6.8 \times 10^{-4}$
Reaction #2	$\text{N}_2 \text{(g)} + 3 \text{H}_2 \text{(g)} \rightleftharpoons 2 \text{NH}_3 \text{(g)}$	$K_2 = 1.04 \times 10^{-4}$
Reaction #3	$\text{H}^+ \text{(aq)} + \text{HS}^- \text{(aq)} \rightleftharpoons \text{H}_2\text{S (aq)}$	$K_3 = 1.1 \times 10^7$
Reaction #4	$\text{H}_2\text{C}_2\text{O}_4 \text{(aq)} \rightleftharpoons 2 \text{H}^+ \text{(aq)} + \text{C}_2\text{O}_4^{2-} \text{(aq)}$	$K_4 = 3.8 \times 10^{-6}$
Reaction #5	$\text{H}^+ \text{(aq)} + \text{S}^{2-} \text{(aq)} \rightleftharpoons \text{HS}^- \text{(aq)}$	$K_5 = 1.0 \times 10^{19}$
Reaction #6	$\text{H}_2 \text{(g)} + \text{I}_2 \text{(g)} \rightleftharpoons 2 \text{HI (g)}$	$K_6 = 5.40 \times 10^1$

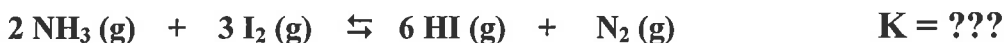
4. Based on the information above, what is the equilibrium constant for the following?



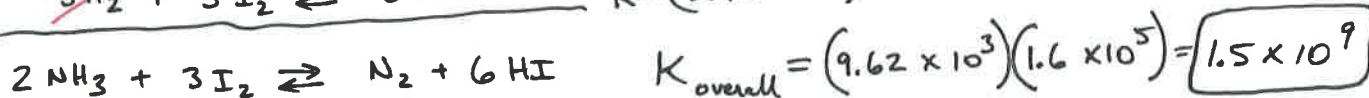
SHOW YOUR WORK....



5. Based on the information above, what is the equilibrium constant for the following?



SHOW YOUR WORK....



6. Based on the information above, what is the equilibrium constant for the following?



SHOW YOUR WORK....

